

## AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A measuring electrode arrangement for electroimpedance tomography, having at least one measuring electrode for electric contacting of a measurement object, ~~whereas~~ a storage space is arranged on the side of the measuring electrode facing away from the measurement object, the storage space containing a contact medium for reducing the electric contact resistance between the measuring electrode and the measurement object, the measuring electrode being at least partially permeable for the contact medium, ~~whereas~~ the contact medium ~~contains~~ containing ions in ~~aqueous~~ a solvent in solution, ~~whereas and wherein~~ the ions can penetrate through the measuring electrode, ~~whereas and~~ the measuring electrode is impermeable for ~~a liquid used as~~ [[a]] the solvent.

2. (Currently Amended) The measuring electrode arrangement according to Claim 1, wherein the solvent of the contact medium is a liquid, a gel, a foam or a paste.

3. (Previously Presented) The measuring electrode arrangement according to Claim 1, wherein an adhesive layer is arranged on the side of the measuring electrode arrangement facing the measurement object in order to attach the measuring electrode arrangement to the measurement object.

4. (Previously Presented) The measuring electrode arrangement according to Claim 1, wherein the storage space is bordered by a plastic layer.

5. (Currently Amended) The measuring electrode arrangement according to Claim 1, further comprising at least one electric shield which ~~consists of~~ comprises an electrically conductive material and is electrically insulated with respect to the measuring electrode.

6. (Previously Presented) The measuring electrode arrangement according to Claim 5, further comprising a plurality of measuring electrodes that are electrically insulated with respect to one another.

7. (Previously Presented) The measuring electrode arrangement according to Claim 6, further comprising a plurality of shields that are electrically insulated with respect to one another, each shield being arranged on one of the measuring electrodes.

8. (Previously Presented) The measuring electrode arrangement according to Claim 6, further comprising a common electric shield for the measuring electrodes.

9. (Previously Presented) The measuring electrode arrangement according to Claim 5 wherein the shield is located on the side of the measuring electrode facing away from the measurement object.

10. (Previously Presented) The measuring electrode arrangement according to Claim 5 wherein the measuring electrodes are mounted on a belt-like electrode carrier, wherein the electrode carrier is extensible for adjusting the electrode spacing.

11. (Currently Amended) ~~A use of~~ In a method of electroimpedance tomography, the improvement comprising:

- (a) providing a measuring electrode arrangement according to any one of Claims 1 - 10, ~~Claim 1 for electroimpedance tomography~~
- (b) securing the measuring electrode to the measurement object, and
- (c) applying an electrical impulse to the measurement object.

12. (New) The measuring electrode arrangement according to claim 1, wherein the at least partially permeable measuring electrode is imperforate in a region extending across the storage space.

13. (New) A measuring electrode arrangement for electroimpedance tomography, including at least one measuring electrode for electric contacting of a measurement object, a storage space arranged on the side of the measuring electrode facing away from the measurement object, the storage space containing a contact medium for reducing the electric contact resistance between the measuring electrode and the measurement object, the measuring electrode being at least partially permeable for the contact medium contained in the storage space so as to assure continuing reduced resistance electrical contact between the measuring electrode and the measurement object.